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BLACK ACID-RESISTANT VARNISH BT-783.(U)

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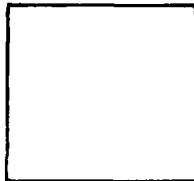


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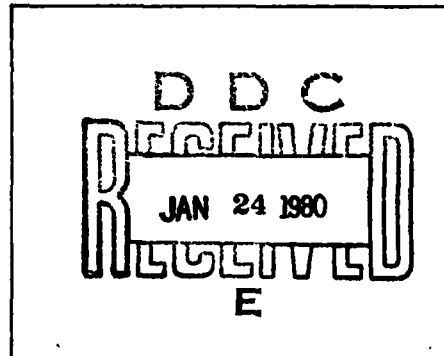
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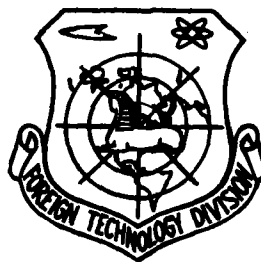
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## FOREIGN TECHNOLOGY DIVISION



BLACK ACID-RESISTANT VARNISH BT-783



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## EDITED TRANSLATION

FTD-ID(RS)T-0920-79

1 August 1979

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BLACK ACID-RESISTANT VARNISH BT-783

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FTD -ID(RS)T-0920-79

Date 1 Aug 1979

# U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	"
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

\*ye initially, after vowels, and after ъ, ы; e elsewhere.  
When written as ё in Russian, transliterate as yě or ě.

## RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh <sup>-1</sup>
cos	cos	ch	cosh	arc ch	cosh <sup>-1</sup>
tg	tan	th	tanh	arc th	tanh <sup>-1</sup>
ctg	cot	cth	coth	arc cth	coth <sup>-1</sup>
sec	sec	sch	sech	arc sch	sech <sup>-1</sup>
cosec	csc	cscn	csch	arc csch	csch <sup>-1</sup>

## Russian English

rot	curl
lg	log

BLACK ACID-RESISTANT VARNISH BT-783

GOST\* 1347-67

This standard is extended to black acid-resistant varnish BT-783 (formerly varnish No. 411) which is a solution of petroleum bitumen or asphalt (or their mixtures) and vegetable oil in volatile organic vehicles.

Varnish BT-783 is designed for coating battery surfaces and their parts for total protection from the effect of sulfuric acid.

Varnish BT-783 is applied to a surface with a paint sprayer or brush.

1. TECHNICAL REQUIREMENTS

1.1. If required the varnish is diluted with a benzine solvent for industrial paint and varnish (white spirit) according to GOST 3134-52, turpentine according to GOST 1571-66, (commercial) coal-tar solvent according to GOST 1928-67, or pure coal-tar xylene according to GOST 9949-62.

1.2. According to physicochemical characteristics, varnish BT-783 should comply with requirements and norms indicated in the table.

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\*All-Union State Standard.

Characteristics	Norms
1. Appearance of the coating	After drying the varnish should form a smooth even coating without pits, leakages, ridges, and impurities.
2. Viscosity in seconds according to the viscosimeter VZ-4 at 20°C is not less than	60
3. Content of dry residue in %, not less than	43
4. Drying time at 18-22°C in hours, not more than:	
from the spray	6
full drying time	48
5. Coating hardness according to a pendulum impact tester in conventional units, not less than	0.15
6. Bend strength of the coating according to a flexibility scale in mm, not more than	3
7. Durability of the coating to the effect of a sulfuric acid solution	Should withstand the test in paragraph 2.10

1.3. The composition of the solvents which go into the formula for varnish and their percentages should be coordinated with the Main Department of Sanitation and Epidemiology of the Ministry of Public Health USSR.

1.4. Prepared varnish should be accepted by the producer-manufacturer's quality control. The manufacturer must guarantee the compliance of the manufactured varnish with the requirements of this standard.

The producer-manufacturer must replace the varnish free of charge in the course of six months from the day of shipping it to the consumer's address if, in the course of the indicated period of time, the varnish is discovered by the consumer not to be in compliance with the requirements of this standard. The replacement of the varnish should be accomplished under conditions adhering to the rules of transportation and storage indicated in GOST 9980-62.

## 2. TESTING METHODS

2.1. For a quality control inspection of the product by the consumer for compliance with requirements of this standard, rules of samplings and methods of testing which are explained below should be applied.

2.2. In checking a batch of varnish which has arrived, a sample is taken in accordance with the requirements of GOST 9980-62.

A quantity of varnish which is obtained during one technological operation and accompanied by one certificate on the quality is taken as a batch.

2.3. Preparation of the samples for testing. The hardness of the coating is established on glass plates; the remaining properties with the exception of the coating's durability to the effect of a solution of sulfuric acid are established on plates made of black plate (GOST 1127-57) with dimensions 70 x 150 mm and thickness of 0.27-0.32 mm.

Plates for applying varnish are prepared according to GOST 8932-58, section III.

The varnish being tested is diluted to the viscosity of 20-22 seconds according to the viscosimeter VZ-4 by the solvent indicated in paragraph 1.1, filtered through a sieve with 002 mesh (GOST 3584-53), applied with a paint sprayer on prepared plates in one layer, and dried for 2.5 hours at 100°C. The thickness of the coating after drying should be 20-25  $\mu\text{m}$ .

2.4. The appearance of the coating is determined visually with natural scattered light.

2.5. The viscosity of the varnish is determined with a VZ-4 viscosimeter according to GOST 8420-57.

2.6. The content of dried residue is determined according to GOST 6989-54.

2.7. Drying time of the varnish is determined in accordance with subparagraph 4 of the table of this standard according to GOST 10086-39, M.I. 17.

2.8. Film hardness is determined by means of a pendulum impact tester in conventional units according to GOST 5233-67.

2.9. The bend strength of the coating is determined by a flexibility scale in millimeters according to GOST 6806-53.

2.10. The coating's durability to the effect of a solution of sulfuric battery acid (GOST 667-53) with a density of 1.32  $\text{g/cm}^3$  is determined on cylindrical-shaped steel rods 100 mm long and with 13-15-mm diameters. One end of the rods is cone-shaped and the other end has a hook for suspending the rod during its immersion into a solution of acid. The coloring is produced by immersion in two layers with the drying of each layer for 2.5 hours at 100°C when the viscosity of the varnish is 35-40 seconds according to the viscosimeter VZ-4. The thickness of the entire coating after drying should be 50-60  $\mu\text{m}$ . After drying the varnish's second layer the cone-shaped end of the rod is immersed for several seconds into a molten mixture consisting of equal quantities of bitumen and rosin or bitumen and paraffin. Then the rod is placed in a solution of sulfuric acid, so that the solution covers

...  
approximately 2/3 of the rod, and allowed to stand for 48 hours at 18-22°C. After this the rod is taken out, washed with water, dried in the air for two hours and examined. The varnish coating should be unchanged, allowing minor dulling of the coating.

### 3. PACKING, MARKING, TRANSPORTATION, AND STORAGE

3.1. Packing, marking, transportation, and storage of varnish BT-783 should be conducted in accordance with the requirements of GOST 9980-62.

# DISTRIBUTION LIST

## DISTRIBUTION DIRECT TO RECIPIENT

<u>ORGANIZATION</u>	<u>MICROFICHE</u>	<u>ORGANIZATION</u>	<u>MICROFICHE</u>
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A210 DMAAC	2	E017 AF/RDXTR-W	1
B344 DIA/RDS-3C	9	E403 AFSC/INA	1
C043 USAMIIA	1	E404 AEDC	1
C509 BALLISTIC RES LABS	1	E408 AFWL	1
C510 AIR MOBILITY R&D	1	E410 ADTC	1
LAB/FIO			
C513 PICATINNY ARSENAL	1	FTD	
C535 AVIATION SYS COMD	1	CCN	1
C591 FSTC	5	ASD/FTD/NIIS	3
C619 MIA REDSTONE	1	NIA/PHS	1
D008 NISC	1	NIIS	2
H300 USAICE (USAREUR)	1		
P005 DOE	1		
P050 CIA/CRS/ADG/SD	2		
NAVORDSTA (50L)	1		
NASA/NST-44	1		
AFIT/LD	1		
ILL/Code I-389	1		
NSA/1213/TDL	2		